

**0544: THE USE OF HUMAN CADAVERS AND VIRTUAL REALITY SIMULATION IN ENDOVASCULAR TRAINING: A QUESTIONNAIRE OF PATIENT AND PROFESSIONAL OPINION**

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**Aim:** To establish the opinion of patients and clinicians on the use of virtual reality simulators (VRS) and human cadavers (HC) for endovascular training.

**Methods:** Experts in interventional cardiology, radiology and vascular surgery rated their agreement to statements regarding endovascular simulation (HC and VRS) through an online questionnaire. Patients' views on endovascular simulation training were also sought.

**Results:** 100 professionals completed questionnaires. < 25% were aware of endovascular HC training, none had first hand experience, five (5.6%) disagreed with its use. All candidates were aware of VRS, 80.9% had first hand experience. Many expressed interest in HC stating concerns regarding the realism of VRS. 107 patients (50 non-vascular, 57 vascular\*) responded. All patients agreed with HC training. Patients declared greater confidence in doctors trained on HC versus VRS ( $p=0.000$ ).

**Conclusion:** These are the first recorded opinions of professionals and patients regarding endovascular simulation training. Endovascular professionals question the suitability, appropriateness and feasibility of endovascular HC training, yet few are wholly satisfied with VRS. Patients appreciate the need for adjunctive simulation training, but harbor mistrust in computer technology. Enhanced patient education is required to maintain confidence and trust.

\* non-vascular patients have no history of vascular disease

**0547: TYPE II ENDOLEAKS: LOW RISK OF RUPTURE AND HIGH RISK OF TREATMENT FAILURE**

David Sidloff, Philip Stather, Eddie Choke, Matt Bown, Robert Sayers. University of Leicester, Leicester, UK.

**Aim:** To assess the risk of rupture and determine the benefits of intervention for the treatment of type II endoleaks after endovascular abdominal aortic aneurysm repair.

**Method:** A systematic review was performed according to PRISMA guidelines. Outcome data including incidence, spontaneous resolution, sac expansion, interventions, success, and complications were recorded.

**Results:** 32 non-randomised retrospective studies were included, totalling 21,728 patients, 1515 type II endoleaks and 392 interventions. This analysis reveals type II endoleaks have an incidence of 10% with 32.3% spontaneously resolving, 14 ruptures were reported (incidence 0.9%), from which 43% did not have concurrent sac expansion. Analysing interventions, 28% were unsuccessful. Translumbar embolization had a higher success rate compared to transarterial embolization (TL81% v TA62.5%  $P=0.024$ ) with fewer persistent endoleaks (TA36% Vs TL19%  $P=0.0396$ ). Transarterial embolizations had a higher associated number of complications (TA10% Vs TL0%  $P=0.0426$ ).

**Conclusion:** This review has revealed that rupture secondary to an isolated type II endoleak is rare (<1%) and that over a third occur in the absence of sac expansion. Nearly a third of all interventions for the treatment of type II endoleaks fail, however a translumbar intervention has a higher success rate with a lower risk of complications.

**0555: AN EVALUATION OF OUR EARLY EXPERIENCE OF PERCUTANEOUS EVAR USING THE PROSTAR® XL DEVICE**

David Ormesher, Jenna Godfrey, Andrew Schiro, David Murray, Ferdinand Serracino-Inglott. Department of Vascular and Endovascular Surgery, Manchester Royal Infirmary, Manchester, UK.

**Introduction:** There is a trend towards less invasive procedures in all areas of surgery. It is suggested that the use of percutaneous closure devices for endovascular procedures that require larger seat sizes may have a positive impact on patient outcomes.

**Methods:** A retrospective review of our endovascular logbook was undertaken from which all patients who received a Prostar® XL device were identified and data collected.

**Results:** 96 Prostar® XL devices were deployed. Mean skin to common femoral artery (CFA) depth was 31.3mm, all but 5 patients had some

degree of CFA calcification. The median length of stay was 4 days. 4 patients went on to develop groin haematomas postoperatively; all of these were treated conservatively. The Prostar® XL cut through the CFA in one patient and this required repair. 80% of complications were in the first 15 cases.

**Conclusion:** No long-term complications in our series can be attributed to the percutaneous approach for EVAR. We believe that US-guided puncture can overcome problems associated with CFA calcification and that the depth from skin to CFA has no impact on morbidity. The use of low profile devices ( $\leq 16F$ ) and operator experience have a positive impact on outcomes with the Prostar® XL device.

**0564: TEMPORAL ARTERY BIOPSY – TOO MANY TOO LATE?**

Ruth Graham, Lourdasamy Selvam. West Wales General Hospital, Carmarthen, UK.

**Aim:** To show Temporal artery biopsy (TAB) rarely influences patient management, and that we should use the American College of Rheumatologists (ACR) criteria (Score  $\geq 3$  sensitivity 93.5%, specificity 91.2%) to identify which patients require biopsy to diagnose Temporal Arteritis (TA).

**Methods:** All patients who underwent a TAB at our institution (01/01/2008-31/12/2011) were identified using histopathology records. Patient case notes, histopathology and haematology records were reviewed to determine the dates of diagnosis, biopsy and corticosteroid therapy and the initial ACR score.

**Results:** Of the forty-three patients identified full data was available on thirty-seven (13M:24F). The average age was sixty-eight (range 26-79). At presentation thirty-five patients were over 50, eighteen had an ESR >50, twenty-one had temporal tenderness and twenty a localised headache meaning nineteen (51%) patients had an initial ACR score  $\geq 3$ . Prior to biopsy 70% (27) had corticosteroids. The average time from diagnosis to biopsy was thirty-one days. There were only two positive biopsies (initial ACR score was 3 in both cases).

**Conclusions:** TAB has a place in the diagnosis of TA but rarely influences patient management. The ACR score should be used to diagnose and initiate treatment in temporal arteritis. If biopsies are required a fast-track surgical referral is recommended.

**0569: RESULTS OF SIX YEARS OF ENDOVENOUS LASER ABLATION (EVLA) FOR THE TREATMENT OF RECURRENT VARICOSE VEINS**

Andrew McAvoy, Jade Myers, Rhodri Jenkins, Mandy Taylor, Frank Mason. Southport District General Hospital, Southport, UK.

Varicose vein (VV) recurrence occurs in up to 20% of patients following open surgery. 'Re-do' VV surgery is technically challenging and complication rates approach 40%.

**Aim:** Our aim was to examine the recurrence and complication rate of patients undergoing EVLA as a treatment for recurrent VV following previous surgery at a District General Hospital.

**Methods:** We included all patients since 2006 who underwent EVLA for recurrent VV following previous surgery. We examined recurrence rates and complications following this procedure.

**Results:** There were 80 EVLA procedures performed for VV recurrence following previous surgery over the 6 year period. The complication rates amongst this group of patients is shown below. Wound infection: 0%, Altered sensation: 6%, Deep Vein Thrombosis: 0%, Phlebitis: 4%, Bleeding: 0%, Overall: 10%.

Post-treatment duplex scanning was performed in 32 patients. 75% of patients had no residual reflux in the treated vein.

**Conclusions:** The overall complication rate following EVLA as a 're-do' treatment for VV was 10%. Early recurrence rates are 25%. EVLA has a low complication and recurrence rate when compared to 're-do' surgery.

**0589: THE ROLE OF PALMAZ STENT-GRAFTS IN EVAR**

Claire McManus, Stephen Badger, Julie Reid. Royal Victoria Hospital, Belfast, Northern Ireland, UK.

**Background:** Palmaz stenting helps proximal fixation in unfavourable aneurysm necks. The study aimed to evaluate complications associated with Palmaz stent-grafts.

**Methods:** Patients undergoing elective or emergency EVAR repair using a Palmaz stent-graft between January 2001 and December 2011 were reviewed. Morphological aneurysm changes were prospectively recorded